



Doc Code: AP.PRE.REQ

PTO/SB/33 (01-09)

Approved for use through 02/28/2009. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional)

102289-100

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)]

on March 2, 2009

Signature Marg Miron

Typed or printed Margaret Miron
name

Application Number

10/722,928

Filed

November 26, 2003

First Named Inventor

Bonnie B. Sandel, et al.

Art Unit

4173

Examiner

Frazier, Barbara S

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

applicant/inventor.

assignee of record of the entire interest.

See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.
(Form PTO/SB/96)

attorney or agent of record. 59,045
Registration number

Signature

Wanli Wu

Typed or printed name

203-498-4317

Telephone number

attorney or agent acting under 37 CFR 1.34.

March 2, 2009

Registration number if acting under 37 CFR 1.34

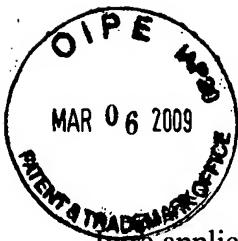
Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required.
Submit multiple forms if more than one signature is required, see below*.

*Total of 1 forms are submitted.

This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Bonnie B. Sandel Docket: 102289-100
Serial No.: 10/722,928 Art Unit: 4173
Filed: November 26, 2003 Examiner: Frazier, Barbara S
Assignee: Arch Chemicals, Inc. Conf. No. 1181
Title: Antimicrobial Protection For Plastic Structures

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Mail Stop After Final
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

This is a Pre-appeal Brief Request for Review responsive to the Advisory Action dated January 13, 2009, in which claims 1-6, 8-15 and 33 of the above-identified application was finally rejected.

A notice of appeal and a pre-appeal brief request for review form are enclosed herewith. If there are any charges associated with this request, please charge them to Deposit Account No. 23-1665.

CERTIFICATE OF MAILING OR TRANSMISSION (37 CFR 1.8(a))

I hereby certify that this correspondence (along with any paper referred to as being attached or enclosed) is being:

deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to Mail Stop After Final, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

transmitted by facsimile on the date shown below to the United States Patent and Trademark Office via facsimile at (571) 273-8300.

Date: March 2, 2009

Signed:

Margaret Miron

REMARKS

Claims 1-6, 8-15 and 33 stand finally rejected under 35 USC 103(a) as allegedly being obvious over Laver, U.S. Patent 5,516,472, Dawson-Andoh et al., Abstract from Vinyltec 2003 Conference, and Lyon et al., U.S. Patent 6,042,877. Applicants respectfully traverse the rejection and request reconsideration of these rejections in the following context:

The instantly claimed invention relates to a process for incorporating a metal salt of an antimicrobial onto an outer surface, or into a porous inner portion, of an extruded or molded plastic product. The process includes the steps of extruding or molding a metal-containing plastic-forming composition in an extruded or molded product, and contacting the extruded or molded product with an aqueous solution of a water-soluble biocide in order to cause the water-soluble biocide to react or chelate with at least a portion of the metal on an outer surface, or in a porous inner portion, of the warm extruded or molded product, thereby forming an antimicrobially protected plastic product having a water-insoluble metal salt of a biocide on the surface, and/or in the porous inner portion, thereof.

The outstanding Office Action cited Laver, Dawson-Andoh et al. and Lyon et al. in rejecting the instant claims. Laver discloses an extrusion process for combining an organic fibrous material with a thermoplastic material to form a wood-imitating composite (Abstract). Laver discloses further that the product may contain lubricants such as zinc stearate. The product produced by the process disclosed in Laver is not antimicrobially protected.

Dawson-Andoh et al. discloses that rigid PVC-wood flour composite lumber containing either maple or pine wood flour was colonized and discoloured by fungi. However, Dawson-Andoh et al. does not provide any solution to the problem.

Lyon et al. discloses a two-step methodology for imparting antimicrobial efficacy to a variety of products. The method includes the steps of: (1) coating the article with a solution containing a complex of a chelating polymer and a metal ion and (2) treating the coated article with an antimicrobial solution (Abstract as well as column 3, lines 1 and 2).

The outstanding Office Action asserts that in view of the disclosure of Dawson-Andoh et al, a person skilled in the art would recognize the need to apply a biocide to the extruded product of Lava. Then the Office Action selectively applies only step (2) of Lyon's two-step methodology to the wood composite produced by the Laver et al. process and alleges that the combination produces the instantly claimed invention.

Applicants respectfully submit that the combination as applied by the Office Action is improper because such combination ignores one of the two-steps mandated by Lyon's disclosed methodology, namely, coating the article with a solution containing a chelating polymer and a metal ion. To ignore that step runs counter to the specific teachings of Lyon et al. and is a clear error.

As discussed above, Lyon et al. disclose a two step process to protect an article. Specifically, Lyon et al. discloses that the article is first treated with a solution containing a complex of a metal ion and a chelating polymer, which upon drying, forms a layer of film coated on the surface of the article. (Col. 3, lines 1-4 as well as col. 4, lines 37-39). Lyon et al. discloses further that after the article is dried, it is treated with another solution containing a potentiator. (col. 4, lines 56 and 57). According to Lyon et al., a potentiator refers to an anti-microbial agent capable of bonding to the metal ion; and to maintain sustained antimicrobial activity, it is desirable if the potentiator only partially displace the bonds between the metal ion and the chelating polymer (col. 4, lines 565). Upon reading the disclosure, a person of ordinary skill in the art would readily understand that after the second-step of the two-step process, one or more bonds between the metal ion and the chelating polymer still exist (not completely replaced), while at the same time, a new bond(s) is formed between the metal ion and the potentiator. Accordingly, a "chelating polymer – metal ion – potentiator" complex is formed.

Indeed, Applicants submit that Lyon et al. discloses in the example of a preferred embodiment that not only is a "chelating polymer – metal ion – potentiator" complex formed, but also it is this complex that confers antimicrobial activity to the finished product.

At column 2, lines 26-28 of Lyon et al., patentee states that it provides a method for the application of an antimicrobial complex to a variety of substrates. Lyon et al. states further that this complex is chitosan-based, and in particular a chitosan-metal-pyrithione complex. See

column 2, lines 28-32. According to Lyon et al., chitosan is a preferred chelating polymer. See column 3, lines 6-8. And pyrithiones are suitable potentiators. See column 5, lines 7-8. Therefore, Lyon et al. discloses the formation of a “chelating polymer-metal ion-potentiator” complex.

At column 2, lines 32-37, Lyon et al. discloses that a chitosan-metal-pyrithione complex can be applied to a substrate surface to provide the finished article and the like with antimicrobial properties that will withstand repeated uses of the article even after significant water exposure. Accordingly, Lyon et al. discloses that chitosan-metal-pyrithione complex, i.e., a “chelating polymer-metal ion-potentiator” complex confers antimicrobial activity.

In view of the above-mentioned disclosures, a combination of the relevant teachings of Laver et al. and Lyon et al. at all, would suggest applying the Lyon et al. process as a whole to the composite disclosed by Laver and arrive at a process wherein a metal ion is added to the product after the product is formed in order to facilitate the formation of an antimicrobial complex – “chelating polymer – metal ion – potentiator” complex on the product’s surface. Otherwise, if step (2) of the process disclosed in Lyon et al. is selectively applied to the extruded product disclosed by Lyon, no chelating polymer-metal ion-potentiator complex would form. This would be contrary to the teaching of Lyon et al. that such complex is required to provide a sustaining antimicrobial efficacy. In addition, as discussed in detail above, to ignore one of the two steps mandated by Lyon et al.’s disclosure runs counter to the specific teachings of Lyon et al. Accordingly, Applicant respectfully submit that the combination is improper.

Applicants submit that there is no proper motivation to combine the teachings of cited references while selectively ignoring a specific teaching of one of the references. Moreover, Applicants submit that absent of using impermissible hindsight reasoning with full knowledge of the present invention, even if the teachings of Lyon et al. and Lave were combined, the combined references would not disclose or suggest the instantly claimed invention, but rather one wherein forms an antimicrobial “chelating polymer – metal ion – potentiator” complex on the surface of the article to be treated.

In view of the foregoing, withdrawal of the outstanding rejections and allowing all the claims are respectfully requested.

Please apply any credits or charge any deficiencies to our Deposit Account No. 23-1665.

Respectfully submitted,
Bonnie B. Sandel et al.



Wanli Wu
Reg. No. 59,045

Date: March 2, 2009

WIGGIN AND DANA LLP
One Century Tower
New Haven, CT 06508-1832
Telephone: (203) 498-4317
Facsimile: (203) 782-2889
Email: wwu@wiggin.com

\12800\601\2180113.1